



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/972,448      | 10/06/2001  | Koya Suzuki          | 5000-4960           | 4076             |

7590 02/06/2003

MORGAN & FINNEGAN, L.L.P.  
345 Park Avenue  
New York, NY 10154

EXAMINER

GARCIA, ERNESTO

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

3679

DATE MAILED: 02/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/972,448

Applicant(s)

SUZUKI ET AL.

Examiner

Ernesto Garcia

Art Unit

3679

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2001 and 17 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 4, 11, 13 and 17-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-9, 12 and 14-16 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

Claims 4, 11, 13 and 18-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 6.

### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "108" has been used to designate a pressure-insertion end portion, a leading end portion in Figure 5, and a pressure insertion portion (Fig. 4); and, character "109" . A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the connection portion (claim 9) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Art Unit: 3679

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: "the step portion is tapered so that the outer diameter of the step portion is made smaller toward the leading end portion (claim 10), and "the serration portion is tapered so that the outer diameter of the serration portion is made smaller toward to the leading end portion" (claim 12) is not provided in the description of Figure 5.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 3679

Regarding claim 16, the limitation "FRP-made" is unclear.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by the Japanese patent, JP05-139170.

Regarding claim 1, a joining structure comprising a first member **2** and a second member **1**. The first member **2** has a serration portion **2b**. The first member **2** has a surface contact portion (the flange near 2b) at a location adjacent to the serration portion **2b**.

Claims 1-3, 6-8, 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Patzig, 2,016,753 (see marked-up attachment)..

Regarding claim 1, a joining structure comprising a first member **1** and a second member **10**. The first member **1** has a serration portion **A2**. The first member **1** has a

Art Unit: 3679

surface contact portion (the flange near 2b) at a location adjacent to the serration portion **A2**.

Regarding claim 2, the serration portion **A2** is provided at a pressure insertion end portion **A6** of the first member **1**. The second member **10** has a pressure insertion portion **A7**. The surface contact portion **A4** includes a step portion **A8** provided between a leading end portion **A9** of the pressure insertion end portion **A6** and the serration portion **A2**. A diameter **A10** of the step portion **A8** is equal to a diameter **A11** of the pressure insertion portion **A7**.

Regarding claim 3, the serration portion **A2** is provided to an outer circumferential surface of the pressure insertion end portion **A6**. The pressure insertion portion **A7** of the second member **10** is hollow. An outer diameter **A10** of the step portion **A8** is not smaller than an inner diameter **A11** of the pressure insertion portion **A7** and smaller than an outer diameter **A16** of the serration portion **A2**. Applicant is reminded that the outer diameter **A10** of the step portion is equal to the inner diameter **A11** of the pressure insertion portion **A7**.

Regarding claim 6, after the second member **10** is joined to serration portion **A2**, the step portion **A8** is in non-contact with the second member **10**.

Regarding claim 7, the first member **1** has a chamfering portion **A17** extended from the leading end portion **A9** to the step portion **A8**.

Regarding claim 8, the step portion **A8** is connected to the serration portion **A2** through an inclined surface **A18**.

Regarding claim 14, Applicant is reminded that the method of forming the step portion by partially removing addendum portions of the serration portion is not germane to the issue of patentability of the device itself. Therefore, this limitation has been given limited patentable weight. See MPEP ' 2113.

Regarding claim 15, the step portion **A8** is formed cylindrically between the leading end portion **A9** and the serration portion **A2**.

Claims 1, 2 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Hood, 4,330,914.

Regarding claim 1, Hood discloses in Figure 3 a joining structure comprising a first member **26** and a second member **12**. The first member **26** has a serration portion **36**. The first member **26** has a surface contact portion at a location adjacent to the serration portion **36**.

Art Unit: 3679

Regarding claim 2, the serration portion **36** is provided at a pressure insertion end portion of the first member **26**. The second member **12** has a pressure insertion portion. The surface contact portion **34** comprises a step portion **34** provided between a leading end portion **30** of the pressure insertion end portion and the serration portion **36**. A diameter of the step portion **34** is equal to a diameter of the pressure insertion portion.

Regarding claim 9, the step portion **34** is connected to the serration portion **36** through an inclined surface **77**. A relief portion in a form of a recess **42** is provided to a connection portion between the inclined surface **77** and the step portion **34**.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patzig, 2,016,753 (see marked-up attachment).

Regarding claim 5, Patzig, as discussed above, discloses the first member **1** is a metal member; however, the second member **10** is not a resin member. Applicant is



Art Unit: 3679

reminded that, within the general skill of a worker in the art, selecting a known material on the basis of its suitability for the intended use is a matter of obvious design choice. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the second member out of resin. *In re Leshin*, 125 USPQ 416.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patzig, 2,016,753 (see marked-up attachment), in view of Artzberger, 4,950,101.

Regarding claim 12, Patzig, as discussed above, fails to disclose the serration portion **A2** being tapered so that the outer diameter **A16** of the serration portion **A2** is made smaller toward the leading end portion **A9**. Artzberger teaches in Figure 3 a serration portion **26** tapered so that the outer diameter of the serration portion **26** is smaller toward the leading end portion **27** to facilitate insertion of a first member within an end of a second member (col. 3, lines 54-58). Therefore, as taught by Artzberger, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the serration portion **A2** tapered to facilitate insertion of the first member **1** within the end of the second member **10**.

***Allowable Subject Matter***

Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

regarding claim 10, the prior art of record does not disclose or suggest a joint structure comprising a step portion of a first member being tapered so that an outer diameter of the step portion is smaller toward a leading end portion of a pressure insertion end portion of the first member; and,

regarding claim 16, the prior art of record does not disclose or suggest the first member is yoke of a propeller shaft.


Art Unit: 3679

***Conclusion***

The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Barnard, 4,307,833, Diget et al., 5,527,126, and Hornig et al., 4,451,245 show a similar joining structure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernesto Garcia whose telephone number is 703-308-8606. The examiner can normally be reached from 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H Browne can be reached on 703-308-1159. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2168.

  
**Lynne H. Browne**  
**Supervisory Patent Examiner**  
**Technology Center 3600**

E.G.

February 3, 2003

Attachment: one marked-up copy of Patzig, 2,016,753.

2,016,753

